

Abstract

An illuminator (1) comprises a substrate (2) supporting light source dies (4) driven via wire bonds (5). The substrate (2) comprises a silicon strip (20) in direct contact with a brass heat sink (3), thus providing for excellent heat transfer away from the die (4). Pads (10, 11, 12) of Ni, Ti, and Ag sub-layers support the die (4) and the wire bonds (5). These both provide electrical connections for the die (4) and also light reflection upwardly because the Ag sub-layers of the pads (10, 11, 12) are evaporated over a thermally grown oxide layer (21) on the Si (20). The oxide has a very high dielectric strength, thus maintaining excellent electrical insulating properties over a large voltage range.